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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,012	12/01/2000	John Russell	SELDEN 00-02.PA	6752

7590

11/19/2003

Quirk & Tratos
Suite 500 North
3773 Howard Hughes Parkway
Las Vegas, NV 89109

EXAMINER

HAMILTON, LALITA M

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,012

Applicant(s)

RUSSELL ET AL.

Examiner

Lalita M Hamilton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected for being redundant of claim 2, and claim 6 is rejected for being redundant of claim 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupien (5,101,353) in view of Bekaert (6,125,355).

Lupien discloses an automated system for providing liquidity to securities comprising storing in a memory the record of prices at which transactions in said security were previously consummated (**col.3, lines 15-22**); continuously deriving an average price of said security at a first time and at a second time and subtracting said average price from said security price to obtain a price deviation (**col.7, lines 5-15 and col.9, line 40 to col.10, line 23**); step of determining said variance includes the further step of assigning a corresponding statistical probability to each said price deviation (**col.9, line 55 to col.10, line 23 and col.11, lines 38-65**); average price is a mean

price (**col.12, lines 15-20**) and normal statistical distribution is substantially symmetrical about said mean price; a computer communication network conformed to transmit thereon a first data in the form of electrical signals, said first data including price and volume information concerning securities (**col.3, line 45 to col.4, line 57**); a central processing facility connected to said communication network, said facility including a first processor for processing said first data in accordance with one or more processing instruction sequences, a temporary memory for storing said first data and any output of said first processor, a video display and a permanent memory useful in storing other data and said instruction sequences; a plurality of processing consoles each connected to said network and each including a corresponding second processor for processing data in accordance with one or more instruction sequences, a temporary memory for storing such parts of said first data as are directed to said second processor and a second video display (**col.5, line 63 to col.6, line 68**); selection means included in each said processing console for allowing manual selection of a selected price within the prices comprising said distribution function (**col.4, lines 45-65**); said instruction sequences further include a third instruction sequence conformed to direct said first processor to compute the correlation of the price of one security with the price of other securities (**col.3, line 45 to col.4, line 40**); one and other securities are each market indices (**col.2, line 60 to col.3, line 12**); one security is a fund (**col.2, line 60 to col.3, line 12**); one and said other security are each funds (**col.2, line 60 to col.3, line 12**); and one security is a market index (**col.2, line 60 to col.3, line 12**). Lupien does not disclose computing the autocorrelation distribution of the price of said security at a

selected lag interval based on the record of the deviation of said prices stored in said memory from an average price; determining the variance of said autocorrelation distribution; obtaining a square root of said variance to provide a numerical indication of one standard deviation; assigning to said variance the characteristics of a normal statistical distribution having a predetermined probability corresponding to said standard deviation; or instruction sequences including a first computation sequence for conforming said first or said second processor to compute the autocorrelation distribution function of the price of a selected one of said securities and a second instruction sequence for conforming said first processor to match a transaction order in said processing console with another transaction order. Bekaert teaches a pricing module comprising computing the autocorrelation distribution of the price of said security at a selected lag interval based on the record of the deviation of said prices stored in said memory from an average price (**col.5, lines 46-55 and col.6, line 30 to col.10, line 5**) (*Three variables are used by the pricing module: inflation, short-term real rate, and dividend growth. Each variable takes into account autocorrelation, variance, and standard deviation in determining the price of securities*); determining the variance of said autocorrelation distribution (**col.5, lines 46-55 and col.6, line 30 to col.10, line 5**); obtaining a square root of said variance to provide a numerical indication of one standard deviation (**col.5, lines 46-55 and col.6, line 30 to col.10, line 5**); assigning to said variance the characteristics of a normal statistical distribution having a predetermined probability corresponding to said standard deviation (**col.6, lines 30-40**); and instruction sequences including a first computation sequence for conforming said

first or said second processor to compute the autocorrelation distribution function of the price of a selected one of said securities and a second instruction sequence for conforming said first processor to match a transaction order in said processing console with another transaction order (**col.5, lines 46-55 and col.6, line 30 to col.10, line 5**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate computing the autocorrelation distribution of the price of said security at a selected lag interval based on the record of the deviation of said prices stored in said memory from an average price; determining the variance of said autocorrelation distribution; obtaining a square root of said variance to provide a numerical indication of one standard deviation; assigning to said variance the characteristics of a normal statistical distribution having a predetermined probability corresponding to said standard deviation; and instruction sequences including a first computation sequence for conforming said first or said second processor to compute the autocorrelation distribution function of the price of a selected one of said securities and a second instruction sequence for conforming said first processor to match a transaction order in said processing console with another transaction order, as taught by Bekaert into the device and method disclosed by Lupien, to demonstrate that the use of autocorrelation, variance, and standard deviation is a well known practice in determining the risk of a portfolio and how variables correlate with one another.

Claims 7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupien.

Lupien discloses an automated system comprising determining the first instance

of the most recent preceding transaction price of a security together with a current average price of said security, said current average price of said security corresponding to an average of a predetermined number of preceding transaction prices thereof; determining a second instance of the most recent delayed transaction price of a security together with a delayed average price of said security, said delayed average price of said security corresponding to an average of a predetermined number of delayed transaction prices thereof (**col.7, lines 5-15; col.9, line 40 to col.10, line 23 and col.12, lines 15-50**); subtracting said most recent transaction price from said current average price to provide a current price difference and said delayed transaction price from said delayed average price to provide a delayed price difference (**col.7, lines 5-15; col.9, line 40 to col.10, line 23 and col.12, lines 15-50**); performing a correlation analysis between said current price difference and said delayed price difference to produce a correlation coefficient therebetween (**col.7, lines 5-15; col.9, line 40 to col.10, line 23 and col.12, lines 15-50**); accumulating said correlation coefficients to produce a distribution thereof (**col.7, lines 5-15; col.9, line 40 to col.10, line 23 and col.12, lines 15-50**); converting said distribution to a normal distribution (**col.3, line 45 to col.4, line 57**), one and other securities are each market indices (**col.2, line 60 to col.3, line 12**); one security is a fund (**col.2, line 60 to col.3, line 12**); one and said other security are each funds (**col.2, line 60 to col.3, line 12**); and one security is a market index. *It is inherent and well known that a correlation analysis may be performed between the current price difference and the delayed price difference to produce a correlation coefficient, since the correlation coefficient is used to determine*

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how two variables move together, whether they are highly positively or negatively correlated. In order to reduce risk, a portfolio would be one in which the securities are more negatively correlated, so as to offset any fluctuations by the other. Lupien discloses that this method is well known (col.4, lines 1-30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to perform an analysis to produce a correlation coefficient so as to determine how variables move in relation to one another.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lalita M Hamilton whose telephone number is (703) 306-5715. The examiner can normally be reached on Tuesday-Thursday (8:30-4:30).

The fax phone number for the organization where this application or proceeding is assigned is (703) 746-6101.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-2272.



LMH



VINCENT MILLIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3800